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Applicant:

Shlomo Ben-Haim et al.

Serial No.:

10/001,710

Filing Date: October 31, 2001

For:

ELECTRICAL MUSCLE CONTROLLER

Enclosures:

(1) First Supplemental Information Disclosure Statement (2 pages) w/IDS Citation (4 pages) &

cited references; (2) Fee check in the amount of \$180.00; (3) Acknowledgement Postcard.

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Attorney Docket No.: 501049.20506 (20066.86

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Shlomo Ben-Haim et al. :

Art Unit:

3762

Serial No.:

10/001,710

Examiner:

C.H. Layno

Filing Date: October 31, 2001

Confirmation No.:

3830

For:

ELECTRICAL MUSCLE CONTROLLER

February 19, 2004

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Mail Stop: Commissioner for Patents P.O. Box 1450 Alexandria, A 22313-1450

**TECHNOLOGY CENTER R3700** 

### FIRST SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

SIR:

The enclosed Supplemental Information Disclosure Statement ("IDS") is submitted in accordance with 37 C.F.R. §§ 197 and 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

In accordance with 37 C.F.R. § 1.98 forms PTO-1449 are attached hereto. Copies of the documents cited are enclosed.

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Attorney Docket No.: 501049.20506 (20066.86)

The filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in § 1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicants reserve the right to prove that the date of publication is in fact different.

A check in the amount of \$180.00 as the fee under 37 C.F.R. §§ 1.97(c)(2) and 1.17(p) is also enclosed.

Respectfully submitted

February 19, 2004

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Substitute for form 1449/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known			
Application Number	10/001,710		
Filing Date	October 31, 2001		
First Named Inventor	Shlomo Ben-Haim		
Art Unit	3762		
Examiner Name	C.H. Layno		
Attorney Docket Number	501049 20506 (20066 86)		

Examiner	Cita	Degument Number	Publication Date	Name of Patentee or	Bases Columns Lines Where
Initials*	Cite No. <sup>1</sup>	Document Number  Number-Kind Code <sup>2 (# known)</sup>	MM-DD-YYYY	Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		<sup>US-</sup> 4,554,922	11-26-1985	Prystowsky et al.	
		<sup>US-</sup> 5,871,506	02-16-1999	Mower	
		<sup>US-</sup> 5,913,876	06-22-1999	Taylor et al.	
		<sup>US-</sup> 6,006,134	12-21-1999	Hill et al.	
		<sup>US-</sup> 5,735,876	04-07-1998	Kroll et al.	
		<sup>US-</sup> 5,205,284	04-27-1993	Freeman	
		<sup>US-</sup> 6,317,631	11-13-2001	Ben-Haim et al.	
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		FORE	IGN PATENT DOCU	MENTS		
Examiner Cite	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages		
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	MM-DD-YYYY		Or Relevant Figures Appear	T
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Examiner	Date	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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				Application Number	10/001,710		
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STATE	MENT BY	APPLI	CANT	First Named Inventor	Shlomo Ben-Haim		
				Art Unit	3762		
(U	se as many sheets	s as necessary)		Examiner Name	C.H. Layno	-	
Sheet	2	of	4	Attorney Docket Number	501049.20506 (20066.86)		

		NON PATENT LITERATURE DOCUMENTS			]
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (boo magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T²	
	1	R, RANJAN & N.V. THAKOR (1995) Annals of Biomedical Engineering 23: pps 812-821 "Electrical Stimulation Of Cariac Myocytes"	TEC		
		N. NANNINI & K. HORCH (1991) IEEE Transactions on Biomedical Engineering 38: pps 769-776: "Muscle Recruitment With Intrafascicular Electrodes"	ECHNOLO(	Ž	-
		D.M. BERS (1991) "Excitation Contraction Coupling And Cardiac Contractile Force"; Chapter 2, pg 17, Kluwer Academic	Y CENT	t I	
	J	S.B. KNISLEY et al. (19912) Circulation Research 70: pgs 707-715 "Effect Of Field Stimulation On Cellular Repolarization In Rabbit Myocardium"	EK KON		Ī
	J	S.M. DILLION (1991) Circulation Research 69: pps 842-856; "Optial Recordings In The Rabbit Heart Show That Defibrillation Strength Shocks Prolong The Duration Of"	ď	5	
	J	J. FLEISCHHAUER et al. (1995) Circulation 92: pps 587-594; "Electrical Resistances Of Interstitial And Microvascular Space As Determinants Of The Extracellular Electrical"		********	
		A. TANIGUCHI et al.; Am. J. Physiol. pg 267: H694-H705; "Inhomogeneity Of Cellular Activation Time And Vmax In Normal Myocardial Tissue Under Electrical Field"	-	*********	1
		R. LUBART et al. (1992) J. Photochemical Photobiology B 14; pps 337-341 "Effect Of Light On Calcium Transport In Bull Sperm Cells"		•••••	1
	1	V.A. LOGINOV (1992) Aviakosm Ekolog Med 26: pgs 49-51; "Accumulation Of Calcium lons In Myocardial Sarcoplasmic Reticulum Of Restrained Rats Exposed To The"		•	
	1	J.L. SCHWARTZ et al. (1990) Bioelectromagnetics 11: pps 349-358; "Exposure Of Frog Hearts To CW Or Amplitude-Modified VHF Fields: Selective Efflux Of Calcium Ions"		•	

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Examiner	· ·	Date	
Signature		Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Sheet

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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3

-	Complete if Known	
Application Number	10/001,710	
Filing Date	October 31, 2001	
First Named Inventor	Shlomo Ben-Haim	-
Art Unit	3762	
Examiner Name	C.H. Layno	
Attorney Docket Number	501049.20506 (20066.86)	

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	/	E. LINDSTROM et al. (1995) Bioelectromagnetics 16: pps 41-47: "intracellular Calcium Oscillations In A T-Cell Line After Exposure To Extremely-Low-Frequency Magnetic"	
	<b>V</b>	V.A. LOGINOV et al. (1991) Kosm Biol Aviakosm Med 15; pps 51-53; "Effects Of An Impulse Electromagnetic Field On Calcium Ion Accumulation In The Sarcoplasmic"	
	/	L.A. COULTON & A.T. BARKER (1993) Phys. Med. Biol. 38; pps 347-360; "Magnetic Fields And Intracellular Calcium; Effects On Lymphocytes Exposed To Conditions For"	
	/	A. PUMIR et al. (1994) Proc. R. Soc. Lond. B. Biol. Sci. 257; pps 129-134; "Control of Rotating Waves In Cardiac Muscle: Analysis Of The Effect Of Electric Fields"	MAR
	/	M. SBLOMONOW et al. (1983) Am. J. Physical Medicine 62: pps 71-82; "Control Of Muscle Contractile Force Through Indirect High-Frequency Stimulation"  J.D. BRONZINO (1995) "Biomedical Engineering Handbook", Chapter 82.5; pg 1288, "IEEE press/CRC press"  J.R. WINDLE et al. (1986) Am. J. Cardiol. 57: pps 381-386; "Subthreshold Conditioning 73	0 2
	1	J.D. BRONZINO (1995) "Biomedical Engineering Handbook", Chapter 82.5; pg 1288, "IEEE press/CRC press"	2004
	/	J.R. WINDLE et al. (1986) Am. J. Cardiol. 57: pps 381-386; "Subthreshold Conditioning Stimuli Prolong Human Ventricular Refractoriness"	
	J	M. FROMER & M. SHENASA (1992) J. Am. Coll. Cardio. 20; pps 879-883; "Ultrarapid Subthreshold Stimulation For Termination Of Atriventricular Node Reentrant Tachycardia"	
	/	B. SKALE et al. (1985) J. Am. Coll. Cardiol. 6: pps 133-140; "Inhibition Of Premature Ventricular Extrastimuli By Subthreshold Conditioning Stimuli"	
		M. YOKOYAMA (1976) Japanese HEart Journal 17; pps 315-325; "The Phase Of Supernormal Excitation In Relation To The Strength Of Subthreshold Stimuli"	

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Examiner		Date	
Signature		Considered	

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Substitute for form 1449B/PTO Complete if Known **Application Number** 10/001,710 INFORMATION DISCLOSURE Filing Date October 31, 2001 STATEMENT BY APPLICANT First Named Inventor Shlomo Ben-Haim Art Unit 3762 (Use as many sheets as necessary) **Examiner Name** C.H. Layno Sheet Attorney Docket Number 501049.20506 (20066.86) 4

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
-	/	CHENG et al (1993) Science 262; October 29; "Calcium Sparks: Elementary Events Underlying Excitation-Contraction Coupling In Heart Muscle"	
	/	STEVENSON et al.; Am J. Cardiol. 57; (6) "Electrophysiological Characteristics Of Ventricular Tachycardia Or Fibrillation In Relation To Age Of Myocardial Infarction"	
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Examiner Signature		Date Considered	

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